

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-10 (Canceled).

Claim 11 (Currently Amended): A device including a computer-readable storage medium storing computer-executable instructions therein, for simulating the real world, configured to be implanted in a computer and, when the computer-executable instructions are executed by a processor, cause the computer to perform interaction-based real world simulation configured to support in a multi-task mode programming by activated objects representing systems to be simulated, including software simulating by objects shared evolution of at least some of the activated objects, the device comprising:

state objects, each state object comprising at least one spatial [[and/]] or time data item [[and/]] or at least one property data item, defining a current state;

interaction objects, each interaction object including containing a designation of at least one of the state objects and of at least one function applicable to at least one of the state objects, and defining at each instant a topology of [[the]] a system being simulated; and

a simulation manager configured to operate by sequences on a selection of interaction objects and to activate each interaction object once only with each sequence, according to an order varying in an at least partly random manner from one sequence to the next, so as to apply each of its functions to the current state of each state object which it defines to evolve its state to a new current state

a simulation manager configured to sequentially select, for a chosen number of times, each of a set of selected interaction objects to operate on each of a set of selected state objects based on a corresponding function, wherein

an order by which the set of selected interaction objects is sequentially selected is varied in a partly random manner for each of the chosen number of times,

each of the set of selected interaction objects is selected only once for each of the chosen number of sequences, and

each of the corresponding functions of each of the set of selected interaction objects is applied to a current state of each of the set of selected state objects and the current state of each of the set of selected state objects is evolved from a previous state based on a previous application of a corresponding function.

Claim 12 (Currently Amended): A device according to claim 11, wherein the simulation software comprises internal interaction objects, each ~~capable of including~~ containing designation of a single state object and at least one function applicable to the single state object, and mutual interaction objects, each ~~capable of including~~ containing the designation of at least two state objects and at least one function applicable to property data of the designated at least two state objects.

Claim 13 (Previously Presented): A device according to claim 11, wherein the simulation software is configured to modify at least some of the functions according to at least one property data item of at least one associated state object.

Claim 14 (Previously Presented): A device according to claim 11, wherein the simulation software is configured to select at least some of the functions according to at least one property data item of at least one associated state object.

Claim 15 (Previously Presented): A device according to claim 11, wherein at least some of the state objects comprise a property data item representing an intensive variable.

Claim 16 (Previously Presented): A device according to claim 11, wherein at least some of the interaction objects have a function bringing about an extensive or intensive variable.

Claim 17 (Previously Presented): A device according to claim 11, wherein at least some of the state objects comprise state sub-objects.

Claim 18 (Previously Presented): A device according to claim 17, wherein at least some of the state objects comprise interaction sub-objects operating on the said state sub-objects.

Claim 19 (Previously Presented): A device according to claim 11, wherein the simulation software comprises classes of objects defining structures of state objects and of interaction objects, the state objects and interaction objects being derived from these classes by instancing.

Claim 20 (Currently Amended): A device according to claim 11, wherein the simulation software comprises a scheduler capable of operating according to one of two modes selected from a real-time mode, in which it operates according to a selected frequency, and a virtual-time mode in which it operates periodically but for durations which vary from one period to another.